

CLAIMS

1. An ink composition comprising a colorant, a humectant, a glycol monoether, a 1,2-alkanediol, and water,

wherein the weight ratio of the glycol monoether to the 1,2-alkanediol is in the range of 1 : 5 to 5 : 1.

2. The ink composition according to claim 1, wherein the weight ratio of the glycol monoether to the 1,2-alkanediol is in the range of 1 : 2 to 2 : 1.

3. The ink composition according to claim 1 or 2, wherein the glycol monoether is glycol monobutyl ether.

4. The ink composition according to any one of claims 1 to 3, wherein the 1,2-alkanediol has 6 to 8 carbon atoms.

5. The ink composition according to any one of claims 1 to 4, wherein the glycol monoether is glycol monobutyl ether, the 1,2-alkanediol is 1,2-hexanediol, and the content of the 1,2-hexanediol is less than 2.5% by weight based on the total amount of the ink composition.

6. The ink composition according to any one of claims 1 to 5, wherein the colorant is a water-soluble dye.

7. The ink composition according to any one of claims 1 to 5, wherein the colorant is a pigment and which further comprises a dispersant for dispersing the pigment.

8. The ink composition according to claim 7, wherein the dispersant is a block polymer resin having an acid value of 70 to 200.

9. The ink composition according to any one of claims 1 to 8, which further comprises a nonionic surfactant.

10. The ink composition according to claim 9, wherein the nonionic surfactant is an acetylene glycol surfactant.

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P
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11. An ~~ink jet recording method comprising the steps of: ejecting droplets of an ink composition; and depositing the droplets onto a recording medium to perform printing, wherein the ink composition is one according to any one of claims 1 to 10.~~

12. A record produced by the recording method according to claim 11.

13. An ~~ink composition comprising a pigment, a dispersant for dispersing the pigment, a 1,2-alkanediol, and water as a main solvent,~~

~~wherein the content of the 1,2-alkanediol is 0.5 to 10% by weight based on the total amount of the ink composition.~~

14. An ~~ink composition comprising a pigment, a dispersant for dispersing the pigment, a 1,2-alkanediol, and water as a main solvent,~~

~~wherein the dispersant is a block polymer resin having an acid value of 70 to 200.~~

15. The ~~ink composition according to claim 14, which contains the 1,2-alkanediol in an amount of 0.5 to 10% by weight based on the ink composition.~~

16. The ~~ink composition according to any one of claims 13 to 15, wherein the 1,2-alkanediol is selected from the group consisting of 1,2-butanediol, 1,2-pentanediol, 1,2-hexanediol, 1,2-heptanediol, and a mixture thereof.~~

17. The ~~ink composition according to any one of claims 13 to 16, which contains, as the 1,2-alkanediol, 3 to 10% by weight of 1,2-butanediol.~~

18. The ~~ink composition according to any one of claims 13 to 16, which contains, as the 1,2-alkanediol, 3 to 10% by weight of 1,2-pentanediol.~~

19. The ~~ink composition according to any one of claims 13 to 16, which contains, as the 1,2-alkanediol, 1 to 6% by weight of 1,2-hexanediol.~~

20. The ~~ink composition according to any one of claims 13 to 16, which contains, as the 1,2-alkanediol,~~

0.5 to 3% by weight of 1,2-heptanediol.

21. The ink composition according to any one of claims 16 to 20, wherein the block polymer resin as the dispersant has an acid value of 100 to 200.

22. The ink composition according to any one of claims 16 to 21, wherein the dispersant is a block copolymer represented by AB, ABA, or ABC in which:

A is a hydrophilic block;

B is a hydrophobic block and contains at least 30% by weight, based on the weight of the R, of a non-acryl monomer selected from the group consisting of

(1) $\text{CH}_2=\text{CH}-\text{R}$

wherein R represents a C_6 - C_{20} substituted or unsubstituted alkyl, aryl, aralkyl, or alkaryl group,

(2) $\text{CH}_2=\text{CH}-\text{OR}^1$

wherein R^1 represents a C_1 - C_{20} substituted or unsubstituted alkyl, aryl, aralkyl, or alkaryl group,

(3) $\text{CH}_2-\text{CH}-\text{O}-\text{C}(\text{O})-\text{R}^1$

wherein R^1 is as defined in (2), and

(4) $\text{CH}_2=\text{CH}-\text{NR}^2\text{R}^3$

wherein R^2 and R^3 are each independently selected from the group consisting of H and C_1 - C_{20} substituted or unsubstituted alkyl, aryl, aralkyl, and alkaryl groups, provided that R^2 and R^3 do not simultaneously represent H; and

C may be any desired block.

23. The ink composition according to any one of claims 13 to 22, which further comprises a nonionic surfactant.

24. The ink composition according to claim 23, wherein the nonionic surfactant is an acetylenic glycol surfactant.

25. The ink composition according to claim 23 or 24, wherein the nonionic surfactant is contained in an amount of 0.1 to 5% by weight based on the total amount of the ink composition.

26. The ink composition according to any one of

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claims 13 to 25, which further comprises a penetrating agent.

27. The ink composition according to claim 26, wherein the penetrating agent is a glycol monoether.

28. The ink composition according to any one of claims 13 to 27, which further comprises 2-pyrrolidone.

29. The ink composition according to any one of claims 13 to 28, which is used in an ink jet recording method.

30. The ink composition according to claim 29, wherein the ink jet recording method is a recording method using an ink jet head which forms ink droplets by the mechanical deformation of an electrostrictive device.

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31. An ink jet recording method comprising the steps of: ejecting droplets of an ink composition; and depositing the droplets onto a recording medium to perform printing, the ink composition being one according to any one of claims 13 to 30.

32. A record produced by the recording method according to claim 31.